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NEW SPECIES OF MITES OF THE FAMILY SCUTACARIDAE
(ACARINA: TARSONEMINA)
COLLECTED FROM GRASSLAND IN IRELAND

BY F. M. MOMEN¹ and J. P. CURRY²

ABSTRACT: Three new species and one new subspecies of the genera Scutacarus and Imparipes are described and illustrated. These species were named Scutacarus brennani, Scutacarus deerparki, Scutacarus impar lioni and Imparipes parainopinatus. All were found in old grassland in Co. Kildare.

TAXONOMY SCUTACARIDAE IRELAND

INTRODUCTION

Tarsonemid mites of the family Scutacaridae are perhaps the most ubiquitous associated with hymenopterous insects, especially bees (Batra, 1965; Mahunka, 1969; Baker and Delphinado, 1975) as well as being numerous in soil (Momen and Curry, 1987). This third report is part of a continuing survey of scutacarid mites in Ireland. It contains descriptions and illustrations of three new species and one new subspecies of the genera Scutacarus and Imparipes found in old grassland at Lyons Estate, Co. Kildare.

The Acari were extracted from the herbage and soil in a modified Tullgren funnel extractor. The holotypes and paratypes. when available, of the new species are deposited in the collection of the National Museum of Ireland.

Genus Scutacarus Gros 1845

Type-species, Scutacarus femoris Gros, 1845.

The genus Scutacarus is distinguished in having 4-segmented leg IV, usually with short tibiotarsus bearing 5-7 setae and without pretarsus, claws and empodium. Leg I is also 4-segmented, and may or may not have claws; there are always 4 solenidia of varying forms on tibiotarsus I.

The three species in the present paper belong to two subgenera: subgenus Variatipes Paoli (without a claw on tibiotarsus I) and subgenus Scutacarus Gros (with a claw on tibiotarsus I).

¹. Present address: National Research Centre, Plant Protection Department, Dokki-Cairo, Egypt.
². Department of Agricultural Zoology and Genetics, University College, Dublin 4, Ireland.

In the description of the new species, we are following the morphological terminology of Mahunka (1972).

Subgenus Variatipes Paoli, 1911

Type-species, Disparipes nudus Berlese, 1886.

Scutacarus (Variatipes) brennani sp. nov.

Female: Length 120-124 μm, breadth 62-68 μm, elliptical.

Dorsum: (Fig. 1, A) : All dorsal setae stout, smooth except for c2, d, e1, and f1 with 2-3 barbs distally. Setae c1 of clypeus originate posterior to and are as long as c2; d longer than e1; e1 as long as f1; f2 about ½ as long as e2.

Venter: (Fig. 1, B) : All apodemes well discernible. Epimeral setae la and lb large pectinate; 2a smooth; 2b dagger-like, smooth; 3a and 3b simple, the latter about three times longer; 4a simple, slender, situated slightly posterior to and about ½ as long as 4b; 4b simple; 3c barbed and as long as 4c. Three pairs of caudal setae, h1 robust, pectinate; h2 minute; h3 strong, smooth and longer than h1.

Legs: Tibiotarsus I without claw (Fig. 1, C). Solenidion α1 stout and the tallest, solenidion α2 slender; both solenidion α1 and α2 stout. Tibiotarsus IV bears six sparsely ciliated setae (Fig. 1, D).

Male: Unknown.

Holotype: One female collected from old Agrostis-Festuca grassland at Lyons Estate, Co. Kildare.

Paratype: One female collected with the holotype.

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Fig. 1: Scutacarus brennani sp. nov., female.
**Remarks**: Among the species lacking a claw on the leg 1, none is known with characteristic dorsal hairs and similarly constructed caudal hairs.

**Scutacarus (Variatipes) deerparki** sp. nov.

**Female**: Length 133-138 μm, breadth 99-104 μm, body oval to elongate.

**Dorsum** (Fig. 2, A): Clypeus large with free margin narrow. All dorsal setae stout with 2-3 barbs distally, except for e2 and f2 which are smooth. c1, c2 and d are subequal in length; e1 as long as e2; f1 slightly longer than e1; f2 about ½ as long as e2.

**Venter** (Fig. 2, B): All apodemes well discernible. Epimeral setae 1a and 1b large, pectinate; 2a smooth; 2b dagger-like, smooth; 3a as long as 3c and shorter than 3b, all smooth; 4a short, about ¼ as long as and inserted anterior to 4b, smooth; 4b strong, smooth and longer than 4c. Three pairs of caudal setae, h1 stout, with 1-2 barbs; h2 minute; h3 small, simple.

**Legs**: Tibiotarsus 1 without claw (Fig. 2, C). Solenidion a1 stout, thick; a2 slender; a1 stout, club-shaped. Tibiotarsus IV bears seven ciliated setae (Fig. 2, D).

**Male**: unknown.

**Holotype**: One female collected from old Agrostis-Festuca grassland at Lyons Estate, Co. Kildare.

**Remarks**: This species is close to *Scutacarus brennani* sp. nov. but it can be readily distinguished by having setae 3c smooth, 3b short, 4a short and anterior to 4b, 4b short and tibiotarsus IV bears seven setae.

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**Fig. 2**: *Scutacarus deerparki* sp. nov., female.
Subgenus *Scutacarus* Gros, 1845
Type-species, *Scutacarus acarorum* (Goeze 1780).

*Scutacarus* (Scutacarus) *impar lioni* subsp. nov.

Female: length 191-195 μm, breadth 133-138 μm, elliptical.

*Dorsum*: (Fig. 3, A): Clypeus large, with free margin narrow. All dorsal setae strong, serrate; \( e_1 \) as long as \( e_2 \); \( d \) as long as \( e_1, f_1 \) and \( f_2 \); \( e_2 \) the shortest of the dorsal setae.

*Venter*: (Fig. 3, B): Apodemes moderately well developed. Epimeral setae \( 1a \) robust, densely serrate; \( 1b, 2a \) less robust than \( 1a \), sparsely serrate; \( 2b \) saberlike, smooth; \( 3a \) shorter than \( 3b \), sparsely serrate; \( 4a \) slender, smooth, shorter and slightly anterior to \( 4b \); \( 4b \) finely serrate; \( 4c \) stouter than and as long as \( 4b \), serrate. Three pairs of caudal setae, \( h_1 \) and \( h_2 \) pectinate, equal in length; \( h_3 \) small, stout, spatulate spine.

*Legs*: Tibiotarsus I with developed claw, Tibiotarsus IV bearing seven ciliated setae (Fig. 3, C).

Male: Unknown.

*Holotype*: One female collected from old *Agrostis-Festuca* grassland at Lyons Estate, Co. Kildare.

*Paratypes*: Two females collected with the holotype.

*Remarks*: The female of the new subspecies *lioni* differs primarily from that of the type form *impar* (Delfinado and Baker, 1976) by having setae \( d \) as long as \( e_1, f_2 \) as long as \( f_1 \); in the type form setae \( d \) shorter than \( e_1 \), setae \( e_2 \) and \( f_2 \) shorter than all dorsal setae. Also epimeral setae \( 1b \) less robust than \( 1a \) while in the type form \( 1a \) and \( 1b \) are similarly robust.

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**Fig. 3**: *Scutacarus impar lioni* subsp. nov., female.
A. — Dorsal aspect. B. — Ventral aspect. C. — Tarsus IV.
Genus *Imparipes* Berlese, 1904

This genus generally resembles *Scutacarus* but can be recognized by having 5-segmented leg IV: distinct tibia and tarsus; 5-6 setae on tarsus, and usually elongate pretarsus. Claws and empodium are usually present. Leg I is 4-segmented and may or may not have claws. MAHUNKA (1965) in his identification key to the genera of the family Scutacaridae recognized three subgenera of *Imparipes* based on characters of tarsus IV. The species described below belong to the subgenus *Imparipes*.

**Imparipes (Imparipes) parainopinatus** sp. nov.

Female: Length 217-226 µm; breadth 145-149 µm, body oval to elongate.

*Dorsum*: (Fig. 4, A): Clypeus large with free margin flat, broad distally and laterally. All dorsal setae sparsely barbed, except for e1 and f1 which are smooth. Setae c1 of clypeus originate posterior to and are as long as c2, shorter than d; e1 shorter than f1; e2 and f2 are subequal in length.

*Venter*: (Fig. 4, B): Apodemes well developed, strong. All epimeral setae barbed, except for 2b; 1a stronger than 1b and 2a; 2b saber-like, smooth; 3a similar to 3b and 3c, strong, barbed; 4a about ¾ as long as and inserted anterior to 4b; 4b long, not reaching the posterior margin of body. Caudal setae h1 longer than h3, both strong, same thickness, barbed; h2 short, about ¼ as long as h1, simple.

*Legs*: Tibiotarsus 1 with claw (Fig. 4, C). Solenidion ω1 stout; ω2 long and slender. Tarsus IV with 5 setae (Fig. 4, D).

Male: Unknown.

*Holotype*: One female collected from old *Agrostis-Festuca* grassland at Lyons Estate, Co. Kildare.

*Paratype*: Females collected from grassland on reclaimed peat at Clonsast, Co. Offaly.

*Remarks*: The new species is close to *Imparipes inopinatus* Mahunka, 1972. It differs from *inopinatus* in having setae c1 posterior to c2 and both

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**Fig. 4**: *Imparipes parainopinatus* sp. nov., female. A. — Dorsal aspect. B. — Ventral aspect. C. — Tarsus I. D. — Tarsus IV.
barbed as opposed to \( c_1 \) anterior to \( c_2 \) and both smooth in \textit{inopinatus}, setae \( e_1 \) and \( f_1 \) smooth and blunt apically and caudal setae \( h_1 \) and \( h_3 \) strong.

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